

Appl. No. 10/601,036  
Amdt. dated April 19, 2006  
Reply to Office Action of December 19, 2005

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Withdrawn - Currently Amended) A method of screening drug candidates comprising:
  - (a) providing a cell that expresses recombinant human ~~KSP~~ kindle-like spindle protein (KSP) or a fragment thereof;
  - (b) adding a drug candidate to said cell under conditions where the drug candidate is taken up by the cell; and
  - (c) determining the effect of said drug candidate on the bioactivity of said recombinant human KSP.
- 2-59. (Canceled)
60. (Currently Amended) A method of ~~assessing an individual's risk for~~ diagnosing a hyper-proliferative disorder in an individual, comprising:
  - (a) determining the expression level of kindle-like spindle protein (KSP) KSP in a sample obtained from the individual; and
  - (b) comparing the KSP expression level in the sample with the expression level of KSP in a control of known proliferation state; ~~and~~
  - ~~(c) assessing the individual's risk for the hyper-proliferative disorder on the basis of the comparison of step (b), wherein an increase in the KSP expression level in the sample as compared to the control indicates that the individual has a hyper-proliferative disorder.~~
61. (Currently Amended) The method of claim 60, wherein comparing comprises comparing the KSP expression level in the sample with the KSP expression level in a control that is representative of normal cells not in a hyper-proliferative state;

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~~and assessing comprises identifying the individual as at risk for the hyper-proliferative disorder if there is a difference in KSP expression levels between the sample and the control.~~

62. (Currently Amended) The method of claim 60 wherein determining comprises determining the expression level of a plurality of target molecules correlated with cell proliferation, wherein one of the target molecules is KSP; and comparing comprises comparing the expression levels of each of the plurality of target molecules with the expression level of the same target molecules in the control.

63. (Previously Presented) The method of claim 62, wherein the plurality of target molecules include a plurality of kinesins.

64. (Previously Presented) The method of claim 60, wherein determining comprises determining the amount of nucleic acid encoding KSP.

65. (Previously Presented) The method of claim 64, wherein the amount of nucleic acid encoding KSP is determined by the extent of binding to probes of a nucleic acid probe array that specifically hybridize to nucleic acids encoding KSP.

66. (Withdrawn) The method of claim 64, wherein the amount of nucleic acid encoding KSP is determined by in situ hybridization.

67. (Previously Presented) The method of claim 64, wherein the nucleic acid is DNA.

68. (Previously Presented) The method of claim 64, wherein the nucleic acid is RNA.

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69. (Withdrawn) The method of claim 60, wherein determining comprises determining the amount of KSP protein in the sample.

70. (Withdrawn) The method of claim 69, wherein the amount of KSP protein is determined by mass spectroscopy.

71. (Withdrawn) The method of claim 69, wherein the amount of KSP protein is determined by an immunological method.

72. (Withdrawn) The method of claim 70, wherein the immunological method is an enzyme-linked immunoassay assay (ELISA).

73. (Withdrawn) The method of claim 69, wherein the KSP protein level is determined by two-dimensional gel electrophoresis.

74. (Previously Presented) The method of claim 60, wherein the hyper-proliferative disorder is a cancer.

75. (Currently Amended) The method of claim 60, further comprising determining whether a variant form of a cell proliferation gene is present in the sample, the presence of a variant cell proliferation gene being an indication that the individual ~~is at risk for~~ has a hyper-proliferative disorder.

76. (Previously Presented) The method of claim 75, wherein the cell proliferation gene is KSP.

77. (Previously Presented) The method of claim 61, wherein the hyper-proliferative disorder is a cancer; and determining comprises determining the amount of nucleic acid encoding KSP from the extent of binding to probes of a nucleic acid probe array that specifically hybridize to nucleic acids encoding KSP or by in situ hybridization.

78. (New) The method of claim 62, wherein

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comparing comprises comparing the expression levels of each of the plurality of target molecules in the sample with the expression levels of the same target molecules in a control that is representative of normal cells not in a hyper-proliferative state.

79. (New) The method of claim 62, wherein the hyper-proliferative disorder is a cancer.